

Listing of Claims

After entering the present amendment, claims 1-12, 14-15 and 17-21 are currently pending in the present patent application. Please cancel claims 13 and 16 without prejudice. Please amend claims 1-3, 7, 11-12, 14-15 and 17 as follows. Claims 18-21 are newly filed.

1. (currently amended) A deliverer for a sheeter, the deliverer comprising:

a first set of vacuum belts, each belt within the first set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belts, ~~belt, a top surface~~, and a vacuum chamber disposed below the top surfaces ~~surface~~ of the first set of vacuum belts, structured to provide a suction through the apertures;

a vacuum roller disposed adjacent to one end of the first set of vacuum belts and substantially parallel to the pulleys of the first set of vacuum belts, the vacuum roller defining a pair of ends, a hollow interior, and at least one row of apertures, each row of apertures extending axially down ~~a~~ the length of the vacuum roller, the vacuum roller further comprising ~~a drive means and~~ a vacuum fitting in communication with the hollow interior;

a second set of vacuum belts disposed adjacent to the vacuum roller and coplanar with the first set of vacuum belts, each belt within the second set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belts; ~~belt, and a top surface~~; and

a rippler disposed between each of the first vacuum belts, each rippler defining a ridge ~~projection~~ structured to cause a paper passing over the rippler to develop a ripple substantially parallel to a direction of movement within the deliverer.

2. (currently amended) The deliverer according to claim 1, wherein:

a top plate is located below the first set of vacuum belts and a vacuum chamber is defined by the top plate, a bottom plate, a plurality of end plates and a plurality of side plates; ~~further include a top plate between at least one pair of first belts;~~ and

the each rippler is an elongated member having a hook for securing each ~~the~~ rippler to the top plate.

3. (currently amended) The deliverer according to claim 1 ~~2~~, wherein each of the rippers ~~the rippler~~ defines a pair of ends, with a ~~the~~ hook disposed on one end, and the ridge disposed on the opposite end.

4. (original) The deliverer according to claim 1, wherein the vacuum roller forms one of the two pulleys for the second set of vacuum belts.

5. (original) The deliverer according to claim 1, wherein the vacuum roller includes four rows of holes.

6. (original) The deliverer according to claim 1, wherein the vacuum roller further comprises:

an outer rotating portion and an inner stationary portion;

the outer rotating portion defining at least one row of apertures, each row of apertures extending axially down the length of the vacuum roller; and

the inner stationary portion defining the hollow interior, and a row of apertures extending axially down the length of the vacuum roller, with each of the apertures of the inner stationary portion corresponding to one aperture within each row of apertures defined within the outer rotating portion.

7. (currently amended) The deliverer according to claim 1 6, wherein a the drive means for rotating an outer roller portion of the vacuum roller is provided. ~~includes a gear at one end of the outer rotating portion.~~

8. (original) The deliverer according to claim 6, wherein the inner stationary portion further comprises an insert within each of the apertures defined therein, the insert defining a hole therein, and being biased outward by a spring.

9. (original) The deliverer according to claim 8, wherein each of the inserts is made from graphite.

10. (original) The deliverer according to claim 6, further comprising an adjustment knob on the inner stationary portion.

11. (currently amended) The deliverer according to claim 6, wherein the vacuum fitting is secured at one end of the inner ~~interior~~ stationary portion.

12. (currently amended) A rippler for a paper deliverer having a top plate, for use with a paper sheeter, ~~the deliverer having a first set of vacuum belts, each belt within the first set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belt, a top surface, and a vacuum chamber disposed below the top surface of the first set of vacuum belts, structured to provide a suction through the apertures; a vacuum roller disposed adjacent to one end of the first set of vacuum belts and substantially parallel to the pulleys of the first set of vacuum belts, the vacuum roller defining a pair of ends, a hollow interior, and at least one row of apertures, each row of apertures extending axially down the length of the vacuum roller, the vacuum roller further comprising a drive means and a vacuum fitting in communication with the hollow interior; and a second set of vacuum belts disposed adjacent to the vacuum roller and coplanar with the first set of vacuum belts, each belt within the second set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belt, and a top surface; the rippler comprising:~~

~~a ridge structured to be secured between a pair of adjacent first belts, and structured to cause a paper passing over the rippler to develop a ripple substantially parallel to a direction of movement within the deliverer,~~

~~wherein the rippler is an elongated member having a hook for securing the rippler to the top plate of the deliverer.~~

13. (cancelled)

14. (currently amended) The rippler according to claim 12 ~~13~~, wherein the rippler defines a pair of ends, with the hook disposed on one end, and the ridge disposed on the opposite end.

15. (currently amended) A method of transporting a paper sheet from a sheeter to a stacker, the method comprising transporting the paper sheet over a ridge on an elongated member having a hook that secures the elongated member to a top plate of a deliverer, and creating at least one ripple in the paper sheet in the process of transporting the sheet over the ridge, with the ripple being substantially parallel to a ~~the~~ direction of travel of the paper sheet, thereby resisting any tendency of the paper sheet to bend or fly upward while being transported.

16. (cancelled)

17. (currently amended) The method according to claim 15 ~~14~~, further comprising:

~~providing a deliverer, the deliverer comprising:~~

~~a first set of vacuum belts, each belt within the first set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belt, a top surface, and a vacuum chamber disposed below the top surface of the first set of vacuum belts, structured to provide a suction through the apertures;~~

~~a vacuum roller disposed adjacent to one end of the first set of vacuum belts and substantially parallel to the pulleys of the first set of vacuum belts, the vacuum roller defining a pair of ends, a hollow interior, and at least one row of apertures, each row of apertures extending axially down the length of the vacuum roller, the vacuum roller further comprising a drive means and a vacuum fitting in communication with the hollow interior;~~

~~a second set of vacuum belts disposed adjacent to the vacuum roller and coplanar with the first set of vacuum belts, each belt within the second set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belt, and a top surface; and~~

~~a rippler disposed between each of the first vacuum belts, each rippler defining a projection structured to cause a paper passing over the rippler to develop a ripple substantially parallel to a direction of movement within the deliverer;~~

~~transporting a paper sheet across the first set of vacuum belts and the rippler, thereby causing a ripple in the paper to resist upward bending or movement of the paper;~~

~~arresting the paper sheet at its trailing end with a the vacuum roller; and~~

~~transporting the paper sheet to a stacker across the second set of belts.~~

18. (new) The rippler according to claim 12, wherein the deliverer further comprises:

a first set of vacuum belts, each belt within the first set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belts, and a vacuum chamber disposed below top surfaces of the first set of vacuum belts, structured to provide a suction through the apertures;

a vacuum roller disposed adjacent to one end of the first set of vacuum belts and substantially parallel to the pulleys of the first set of vacuum belts, the vacuum roller defining a pair of ends, a hollow interior, and at least one row of apertures, each row of

apertures extending axially down a length of the vacuum roller, the vacuum roller further comprising a vacuum fitting in communication with the hollow interior;

a second set of vacuum belts disposed adjacent to the vacuum roller and coplanar with the first set of vacuum belts, each belt within the second set having a pair of ends with a pulley at each end, and a plurality of apertures defined along the belts.

19. (new) The rippler according to claim 18, wherein the vacuum roller further comprises:

an outer rotating portion and an inner stationary portion;

the outer rotating portion defining at least one row of apertures, each row of apertures extending axially down the length of the vacuum roller; and

the inner stationary portion defining the hollow interior, and a row of apertures extending axially down the length of the vacuum roller, with each of the apertures of the inner stationary portion corresponding to one aperture within each row of apertures defined within the outer rotating portion.

20. (new) The rippler according to claim 18, wherein the vacuum roller includes four rows of holes.

21. (new) The rippler according to claim 19, wherein the inner stationary portion further comprises an insert within each of the apertures defined therein, the insert defining a hole therein, and being biased outward by a spring.